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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,913	12/14/2000	Hiroaki Kaneko	040302/0250	5823

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EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/735,913

Applicant(s)

KANEKO ET AL.5

Examiner

Julian Mercado

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11/10/03
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-6, 9-17 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 6, 9-11 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12-11-03
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Remarks*

This Office action is responsive to applicant's amendment filed November 11, 2003.

Claims 1-6, 9-17 and 21-24 are pending, of which claims 1-5 and 12-17 are withdrawn from consideration.

This Office action presents a new ground of rejection and is therefore made NON-FINAL.

### *Claim Rejections - 35 USC § 112*

Claims 9 and 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "the metal oxide powder" in line 2. There is insufficient antecedent basis for this limitation in the claim. The examiner notes that the previously recited "metal oxide powder" in claim 6 has been amended as a "metal oxide support". For purposes of claim interpretation, "the metal oxide powder" in claim 21 is interpreted as "the metal oxide support".

Claim 9 recites the limitation "the metal oxide" in line 2. There is insufficient antecedent basis for this limitation in the claim. As above, it appears to the examiner that "the metal oxide" is in reference to "the metal oxide support".

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Claim 24 recites the limitation "the metal oxide" in line 3. There is insufficient antecedent basis for this limitation in the claim. As above, it appears to the examiner that "the metal oxide" is in reference to "the metal oxide support".

Claims 22-24 are rejected under 35 U.S.C. 112, second paragraph, being dependent upon a rejected base claim.

***Claim Rejections - 35 USC § 102***

Withdrawn rejection(s):

The rejection of claims 6 and 9-11 under 35 U.S.C. 102(b) based on Yokoyama et al. (JP 57-7255) has been withdrawn. The examiner notes that applicant's present amendment further defines the previously recited "metal oxide powder" as a metal oxide support using powder selected from the group consisting of Ce oxide powder, Zr oxide powder and Ce-Zr complex oxide powder. This limitation therefore precludes Yokoyama et al.'s teaching of a metal oxide powder such as alumina.

New rejection(s):

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wieland et al. (U.S. 6,413,449 B1).

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The preamble recitation of a "methanol reforming catalyst" has not been given the effect of a limitation in the claim, as the preamble appears to be only directed to the purpose or intended use of the method; the additional components of the claim(s) can stand alone without depending on the preamble for completeness. However, it is noted that Wieland et al.'s invention is drawn to the formation and use of a methanol reforming catalyst comprising impregnating a metal oxide powder such as zirconium oxide or Zr oxide, *inter alia*, with Pd and Zn then burning, i.e. calcining the impregnated metal oxide support at a temperature of 300°C to 550°C. (col. 4 line 59-67, col. 6 line 17-23 and line 55-57, applies to independent claim 1 and dependent claim 10) The metal oxide is reduced at 350°C to 500°C. (col. 6 line 22-23, applies to dependent claim 10)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wieland et al. as applied to claims 6, 10 and 11 above in view of Cheung (U.S. Pat. 4,058,485).

The teachings of Wieland et al. are discussed above.

As to dependent claim 21, Wieland further teaches forming a slurry, i.e. dispersion including the metal oxide support. (col. 7 line 4-29) Note that the slurry is applied to a "carrier body" which is subsequently burned, i.e. calcined at temperatures from 300°C to 550°C. (col. 7

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line 23-27, applies to dependent claim 22) The disclosed temperature range is considered to read on the claimed "about 400°C" to the extent that the disclosed temperature range encompasses or overlaps with the claimed temperature range. (applies to dependent claim 23)

Wieland et al. does not explicitly teach a monolithic substrate. However, Cheung teaches that monolithic substrates "have been known for many years" as part of fuel cell electrode components. (col. 1 line 9-42) The skilled artisan would find obvious to employ a monolithic substrate in Wieland et al. for reasons such as employing a substrate with physical strength, high porosity, high surface area and high temperature tolerance. (*ib*) Additionally, it is noted that the "[h]eat exchange metal sheeting or honeycomb bodies of ceramic materials or metal foils" disclosed in Wieland et al. as carrier bodies are consistent with the art's characterization of a monolithic substrate. (see Wieland et al., col. 2 line 55-57) The patentees also disclose that that coated catalysts, such as those disclosed and claimed by the patent, are employed in monolithic vehicle exhaust gas catalysts. (col. 2 line 41-46)

### ***Response to Arguments***

Arguments against Yokoyama et al. filed with the present amendment are deemed moot, as the rejection based on this reference has been withdrawn.

### ***Allowable Subject Matter***

Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: dependent claim 9 recites a two-step impregnation of the metal oxide [support] with a Zn-containing solution and then a Pd-containing solution. Wieland et al. does not teach or at least suggest this feature insofar as "the formation of the alloy is facilitated if the support material is impregnated at the same time with the zinc and palladium compound and is then calcined". (col. 6 line 39-41)

Claim 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: dependent claim 24 recites mixing the metal oxide [support] impregnated with Pd and Zn with nitric acid containing alumina or silica. Wieland et al. does not teach or at least suggest this feature in that the disclosed dispersion is acidified with the palladium solution which is then treated with a basic neutralization step and a reduction step. (col. 7 line 5-21)

### *Conclusion*

DE 253160 cited in the December 11, 2003 Information Disclosure Statement has not been considered by the examiner as citation of this document without its accompanying translation, English-language abstract or statement of relevance is not in compliance with MPEP 609. Applicant is requested to provide these related documents for the examiner's consideration.

The examiner notes applicant's assertion that the absence of a translation for DE 253160 does not relieve the PTO from considering the submitted document. However, 37 CFR § 1.98

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actually states that the burden of furnishing a statement of relevance or English-language translation rests with the applicant.

- (i) A concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, of each patent, publication, or other information listed that is not in the English language. The concise explanation may be either separate from applicant's specification or incorporated therein.
- (ii) A copy of the translation if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in § 1.56(c).


(sec. 3 (i-ii))

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam

  
Patrick Ryan  
Supervisory Patent Examiner  
Technical Center 1700